10-25-2010

Enjoy the Fall Weather –Take a Walk and Collect Some Soil Samples

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Enjoy the Fall Weather –Take a Walk and Collect Some Soil Samples

By Greg Tylka, Department of Plant Pathology

Once harvest is completed, a very productive way to enjoy the fall weather is to collect soil samples for soybean cyst nematode (SCN).

In the 1990s and much of the past decade, fall soil sampling for SCN was strongly recommended as a way to scout fields for the presence of this pest. If fields have not yet been tested for SCN, soil samples should be collected for this purpose. But many fields infested with SCN in Iowa likely have already been discovered.

Another reason to collect soil samples for SCN in the fall is to determine SCN egg population densities (numbers). These numbers will be useful for comparison when soil samples are collected again sometime in the future. Growers and agronomists are advised to take soil samples every six to eight years to assess SCN population densities as a check that management efforts are adequately controlling the nematode. Doing this is important because many SCN populations in Iowa and throughout the Midwest are developing increased ability to reproduce on the most common type or source of SCN resistance, called PI 88788. The key to profitable long-term soybean production in SCN-infested fields is to prevent SCN population densities from increasing.

Comparing results of soil samples collected six to eight years apart requires good record keeping and also consistent soil sample collection methods. Accurate and detailed notes of when and how samples were collected are needed so the same methods can be used in future years. Details should include the specific areas of fields that are sampled, the number of cores that are collected and their depth, the specific sampling date, whether samples are collected before or after a soybean or other crop, and which laboratory processes the samples.

Following are some general soil sampling guidelines for this purpose.

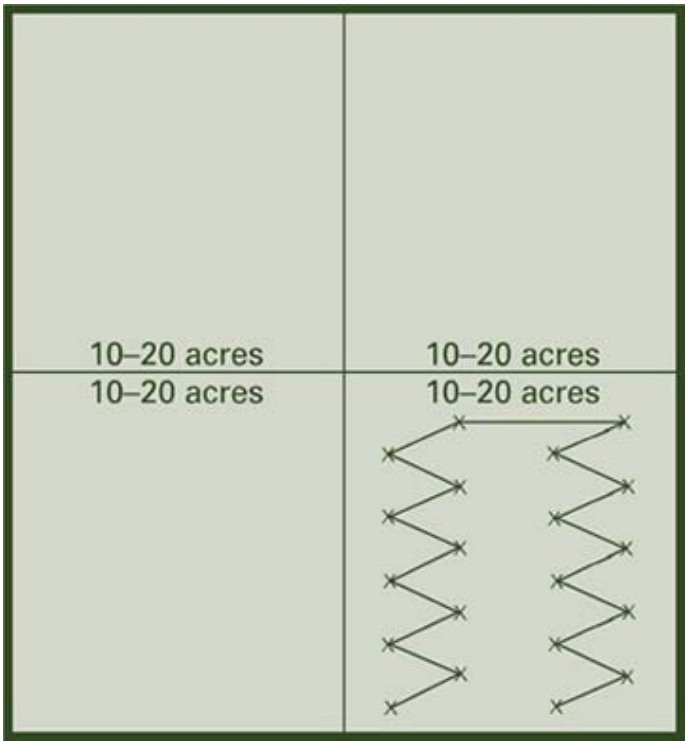
- The more soil cores collected and the smaller the area sampled, the more accurate the results will be.
- Soil cores should be from the upper eight inches of soil.
- If corn or some other nonhost crop was last grown in the field, it doesn't matter if soil cores are collected in the previous crop's row.
- It is better to collect soil cores after the previous corn (or other nonhost crop) rows have been destroyed by tillage.
- If soybeans were last grown in the field, collect soil cores from under the old crop rows.
- If sampling conventionally (not grid sampling), collect 15 to 20 soil cores in a zigzag pattern from no more than 20 acres. The 20-acre parcels of the field do not need to be square or rectangular; samples

can be collected from zones according to the agronomic features of the field (see figures).

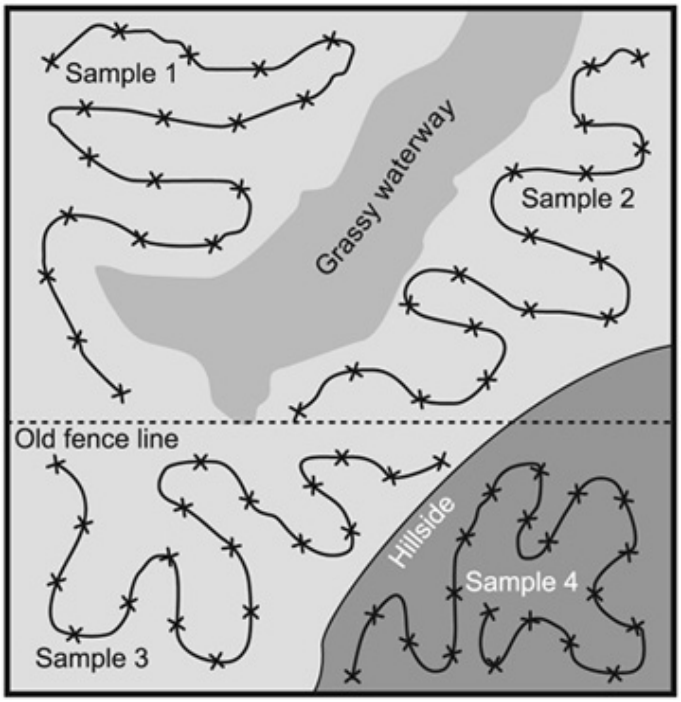
• If grid sampling: collect one or two extra soil cores from every grid cell sample and combine these extra cores from the number of cells that represent approximately 20 acres.

Many private soil laboratories can process soil samples to determine SCN egg population densities. Samples also can be sent to the Iowa State University Plant and Insect Diagnostic Clinic, Room 327 Bessey Hall, Iowa State University, Ames, Iowa 50011-1020. The current fee for SCN analysis at the ISU clinic is $15 per sample for samples from Iowa. Samples sent to the ISU clinic should be accompanied by a completed Plant Nematode Sample Submission Form.

More information about the biology, scouting, and management of SCN can be found at www.soybeancystnematode.info.



Collect 20 or more soil cores from areas in the field no larger than 20 acres.



Sampling areas can be designated according to agronomic features of the field.

Greg Tylka is a professor of plant pathology with extension and research responsibilities in management of plant-parasitic nematodes.
